

09/914127
518 Rec'd PCT/PTO 21 AUG 2001

Attorney's Docket No. 5683P012

Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Andrew Augustine WAJS

Examiner: Not yet assigned

Application No.: New application

Art Group: Not yet assigned

Filed: Herewith

For: METHOD FOR CONTROLLING THE
USE OF A PROGRAM SIGNAL IN A
BROADCAST SYSTEM, AND
CONTROL DEVICE FOR A
RECEIVER FOR CARRYING OUT
SUCH A METHOD

National Phase Filing of:

PCT/EP 00/13393

filed 18 December 2000

Assistant Commissioner of Patents
Washington, DC 20231-9998

PRELIMINARY AMENDMENT

Sir:

Applicant respectfully requests the Examiner to enter the following
amendments.

IN THE CLAIMS:

Please amend the claims as follows:

1. A method to control the use of a program signal in a broadcast system,
comprising one or more broadcasters and a number of receivers, at least a part of the
receivers having a storage medium to store program signals, wherein the program

signal comprises content signals of a first and a second type, wherein the second type of content signals, is inserted in time slots in the first type of content signals, wherein at least the first type of content signals is scrambled using control words as scrambling keys to obtain a scrambled program signal and wherein the scrambled program signal is broadcasted together with entitlement control messages (ECM's) containing the control words in an encrypted manner using a second key, wherein a decryptor is provided at each receiver for retrieving the control words from the ECM's by decrypting the ECM's, and wherein the control words are delivered by the decryptor for descrambling the program signal, and wherein at least a plurality of ECM's comprises control information to control the decryptor in such a manner that at least the time slots for second type of content signals are maintained in the first type of content signals.

2. A method according to claim 1, wherein a real time clock is operated at the receiver side, wherein the control information of an ECM near the beginning of a time slot for the second type of content signals indicates a delay before a next ECM can be decrypted by the decryptor.

3. A method according to claim 1, wherein the ECM's comprise first ECM's for the first type of content signals and second ECM's for the second type of content signals, wherein at least a plurality of first and second ECM's is provided with control information, wherein the decryptor checks the control information and delivers decrypted control words of the first or second ECM's in accordance with the control information to descramble content signals of the first or second type, respectively.

4. A method according to claim 3, wherein the control information of said plurality of ECM's comprises timing information, wherein a real time clock is operated

at the receiver side, wherein the decryptor checks the timing information of each ECM by means of the real time clock and continues to deliver control words of the ECM's for descrambling the program signal only if the timing information corresponds with the time indication provided by the real time clock.

5. A method according to claim 4, wherein a sequence identifier and a minimum delay which should pass before a next ECM should be decrypted are added to said plurality of ECM's as timing information, wherein the decryptor checks the time passed by means of the real time clock and continues to deliver a next control word only if the time passed corresponds with the minimum delay

6. A method according to claim 1, wherein the control information of the ECM's comprises a sequence identifier including an index number of the previous and/or next ECM's, wherein the decryptor checks the index number of a received ECM against the expected index number, wherein the control word is only provided if the index number received matches the expected index number.

7. A method according to claim 1, wherein the control information of an ECM comprises information on the insertion of the second type of content signals in the first type of content signals.

8. A method according to claim 3, wherein at least a plurality of first ECM's provides control information for the decryptor indicating the decryptor to use a plurality of second ECM's, wherein the control information may comprise timing information on the time period for using first ECM's and on the time period for using second ECM's, and information on the point within the first type of content signals for inserting the second type of content signals.

10. A method according to claim 8, wherein the decryptor forces the receiver to use all second ECM's corresponding to the time period indicated for using the second ECM's independent of the receiver being tuned to the corresponding program signal source.

12. A method according to claim 1, wherein the decrypting means is provided as a software module broadcasted by a broadcaster, wherein the software module is executed in the receivers, wherein the software module is regularly changed by the broadcaster.

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14. A control device for a receiver for carrying out the method according to claim 1, comprising a decryptor to retrieve the control words from ECM's by decrypting the ECM's, and for delivering decrypted control words descrambling a program signal, wherein the decryptor is adapted to check the control information of the decrypted ECM's and to insert a time slot in the first type of content signals as indicated by the control information.

15. A control device according to claim 14, wherein the decryptor delivers decrypted control words of the first or second ECM's in accordance with the control words of the first or second ECM's in accordance with the control information to descramble content signals of the first or second type, respectively.

16. A control device according to claim 14, further comprising a real time clock, wherein the decryptor is adapted to check the timing information in the control information of each ECM by means of the real time clock and to continue to deliver control words of the ECM's to descramble the program signal only if the timing information corresponds with the time indication provided by the real time clock.

REMARKS

If there are any additional charges, please charge Deposit Account No. 02-2666.
If a telephone interview would in any way expedite the prosecution of the present application, the Examiner is invited to contact André L. Marais at (408) 947-8200.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: 08/21/ 2001



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D **O** **C** **T** **I** **L** **E** **S** **A** **R** **E** **N** **G** **E** **S**

1. (Amended) [Method for controlling] A method to control the use of a program signal in a broadcast system, comprising one or more broadcasters and a number of receivers, at least a part of the receivers [preferably] having a storage medium [for storing] to store program signals, wherein the program signal comprises content signals of a first and a second type, wherein the second type of content signals, is inserted in time slots in the first type of content signals, wherein at least the first type of content signals is scrambled using control words as scrambling keys to obtain a scrambled program signal and wherein the scrambled program signal is broadcasted together with entitlement control messages (ECM's) containing the control words in an encrypted manner using a second key, wherein [decrypting means are] a decryptor is provided at each receiver for retrieving the control words from the ECM's by decrypting the ECM's, and wherein the control words are delivered by the [decrypting means] decryptor for descrambling the program signal, [characterized in that] and wherein at least a plurality of ECM's comprises control information to control the [decrypting means] decryptor in such a manner that at least the time slots for second type of content signals are maintained in the first type of content signals.

3. (Amended) [Method] A method according to claim 1, wherein the ECM's comprise first ECM's for the first type of content signals and second ECM's for the second type of content signals, wherein at least a plurality of first and second ECM's is provided with control information, wherein the [decryption means] decryptor checks the control information and delivers decrypted control words of the first or second ECM's in accordance with the control information to descramble content signals of the first or second type, respectively.

4. (Amended) [Method] A method according to claim 3, wherein the control information of said plurality of ECM's comprises timing information, wherein a real time clock is operated at the receiver side, wherein the [decrypting means] decryptor checks the timing information of each ECM by means of the real time clock and continues to deliver control words of the ECM's for descrambling the program signal only if the timing information corresponds with the time indication provided by the real time clock.

5. (Amended) [Method] A method according to claim 4, wherein a sequence identifier and a minimum delay which should pass before a next ECM should be decrypted are added to said plurality of ECM's as timing information, wherein the [decrypting means] decryptor checks the time passed by means of the real time clock and continues to deliver a next control word only if the time passed corresponds with the minimum delay

6. (Amended) [Method] A method according to [any one of claims 1-5] claim 1, wherein the control information of the ECM's comprises a sequence identifier including an index number of the previous and/or next ECM's, wherein the [decrypting means] decryptor checks the index number of a received ECM against the

$$\begin{pmatrix} \frac{\partial^2}{\partial x_1^2} & \frac{\partial^2}{\partial x_1 \partial x_2} \\ \frac{\partial^2}{\partial x_1 \partial x_2} & \frac{\partial^2}{\partial x_2^2} \end{pmatrix} = \begin{pmatrix} \frac{\partial^2}{\partial x_1^2} & \frac{\partial^2}{\partial x_1 \partial x_2} \\ \frac{\partial^2}{\partial x_1 \partial x_2} & \frac{\partial^2}{\partial x_2^2} \end{pmatrix} = \begin{pmatrix} \frac{\partial^2}{\partial x_1^2} & \frac{\partial^2}{\partial x_1 \partial x_2} \\ \frac{\partial^2}{\partial x_1 \partial x_2} & \frac{\partial^2}{\partial x_2^2} \end{pmatrix} = \begin{pmatrix} \frac{\partial^2}{\partial x_1^2} & \frac{\partial^2}{\partial x_1 \partial x_2} \\ \frac{\partial^2}{\partial x_1 \partial x_2} & \frac{\partial^2}{\partial x_2^2} \end{pmatrix}$$
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15. (Amended) [Control] A control device according to claim 14, wherein the [decrypting means] decryptor delivers decrypted control words of the first or second

